

LPDES PERMIT NO. LA0007579, AI No. 19483

LPDES FACT SHEET and RATIONALE
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM
(LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

1. **Company/Facility Name:** Entergy Louisiana, LLC
Sterlington Generating Plant
Post Office Box 647
Sterlington, Louisiana 71280
2. **Issuing Office:** Louisiana Department of Environmental Quality
(LDEQ)
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313
3. **Prepared By:** Michelle Bickham
Permits Division
Phone #: 225-219-3109

Date Prepared: December 1, 2008
4. **Permit Action/Status:**
 - A. **Reason For Permit Action:**

Proposed reissuance of a Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2711.

LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.
 - B. LPDES permit - (LA0007579)
LPDES permit effective date: December 1, 2000
LPDES permit expiration date: November 30, 2005
 - C. Application received on November 21, 2005; additional information received via email from Gus VonBodungen on November 19, 2008, February 5, 2008, and February 23, 2009
5. **Facility Information:**
 - A. **Location -** 101 Boardman Avenue, Sterlington
 - B. **Applicant Activity -**

Entergy Louisiana, LLC, Sterlington Generating Plant, is a steam electric generating station with a net output of 427 megawatts electrical (Mwe). Electricity is generated using one drum type boiler, two gas turbines and a heat recovery steam generator. The primary fuel source for all units is natural gas; but Unit No. 6,

Fact Sheet and Rationale for
Entergy Louisiana, LLC, Sterlington Generating Plant
LA0007579, AI No. 19483
Page 2

Unit 7 is capable of burning No. 6 Fuel Oil. The facility discharges through the outfalls listed in Section 7 (below).

C. Technology Basis - LAC 33:IX.4903

<u>Guideline</u>	<u>Reference</u>
Steam Electric Power Generating	40 CFR 423
Point Source Category	

~~Other sources of technology-based limits:~~

LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6)

LPDES permit LAG670000 effective February 1, 2003

Best Professional Judgement

D. Fee Rate -

1. Fee Rating Facility Type: Major
2. Complexity Type: III
3. Wastewater Type: I
4. SIC code: 4911

E. Continuous Facility Effluent Flow (Max 30-Day) - 159.8 MGD.

6. Receiving Waters: unnamed ditch, Lonewa Bayou, and the Ouachita River

Ouachita River

1. TSS (15%), mg/L: 6.0
2. Average Hardness, mg/L CaCO₃: 38.38
3. Critical Flow, cfs: 790
4. Mixing Zone Fraction: 1/3
5. Harmonic Mean Flow, cfs: 2133
6. River Basin: Ouachita River Basin, Segment No. 080101
7. Designated Uses:

The designated uses are primary contact recreation, secondary contact recreation, fish and wildlife propagation, and drinking water supply.

Information based on the following: Water Quality Management Plan, Volume 5A, 1994; LAC 33:IX Chapter 11; Recommendation(s) from the Engineering Section. Hardness and 15% TSS data come from ambient monitoring station No. 13 on the Ouachita River at a bridge on State Highway 2.

Fact Sheet and Rationale for
Entergy Louisiana, LLC, Sterlington Generating Plant
LA0007579, AI No. 19483
Page 3

7. Outfall Information:

Outfall 001

- A. Type of wastewater - the intermittent discharge of cooling tower blowdown from Unit 7
- B. Location - at the point of discharge from the cooling tower blowdown line prior to entering the Ouachita River
(Latitude-32°42'5", Longitude-92°04'47")
- C. Treatment - shock chlorination
- D. Flow - 0.6 mgd
- E. Receiving waters - Ouachita River
- F. Basin and segment - Ouachita River Basin, Segment 080101

Outfall 002

- A. Type of wastewater - the continuous discharge of once through non-contact cooling water from Unit 6
- B. Location - at the point of discharge from the turbine condenser cooling system prior to entering the Ouachita River
(Latitude 32°42'16", Longitude 92°04'46")
- C. Treatment - screening, shock chlorination
- D. Flow - 158.4 mgd
- E. Receiving waters - Ouachita River
- F. Basin and segment - Ouachita River Basin, Segment 080101

Outfall 003

- A. Type of wastewater - the intermittent/emergency discharge of low contamination potential stormwater runoff from an area located southwest of the generating station administration building
- B. Location - at the point of discharge from the drainage line valve located to the north of Outfall 002 prior to entering the Ouachita River (Latitude 32°42'15", Longitude 92°04'48")
- C. Treatment - none
- D. Flow - intermittent

Fact Sheet and Rationale for
Entergy Louisiana, LLC, Sterlington Generating Plant
LA0007579, AI No. 19483
Page 4

- E. Receiving waters - Ouachita River
- F. Basin and segment - Ouachita River Basin, Segment 080101

Outfall 004

- A. Type of wastewater - the intermittent/emergency discharge of low contamination potential stormwater runoff from an area located west northwest of the generating station administration building
- B. Location - at the point of discharge from the drainage line valve located to the north of Outfall 002 prior to entering the Ouachita River (Latitude 32°42'17", Longitude 92°04'45")
- C. Treatment - none
- D. Flow - intermittent
- E. Receiving waters - Ouachita River
- F. Basin and segment - Ouachita River Basin, Segment 080101

Outfall 005

- A. Type of wastewater - the intermittent discharge of low volume wastewaters, intermittent stormwater drainage, miscellaneous maintenance wastewaters including but not limited to fire system water, water from pressure washing floors, clarifier underflow, purged groundwater, lab drain water, and cooling tower drift leakage, previously monitored chemical metal and metal cleaning wastewater from Outfall 105, hydrostatic test wastewater from Outfall 205, and intermittent stormwater runoff from the plant site including areas common with emergency Outfalls 003 and 004
- B. Location - at the point of discharge from the oil/water separator prior to entering an unnamed ditch thence to Lonewa Bayou thence to the Ouachita River (Latitude 32°42'07", Longitude 92°04'41")
- C. Treatment - neutralization, settling, flotation
- D. Flow - 0.7 mgd

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 5

- E. Receiving waters - unnamed ditch thence to Lonewa Bayou thence to the Ouachita River
- F. Basin and segment - Ouachita River Basin, Segment 080101

Outfall 105

- A. Type of wastewater - the intermittent internal discharge of chemical metal and metal cleaning wastewaters from internal components of plant equipment
- B. Location - at the point of discharge from the mobile cleaning process unit prior to combining with waters of Outfall 005 (Latitude 32°42'8", Longitude 92°04'43")
- C. Treatment - mixing, chemical oxidation, chemical precipitation, coagulation, multimedia filtration, gravity thickening, chemical condition, vacuum filtration
- D. Flow - 0.06 mgd
- E. Receiving waters - through Outfall 005 thence to an unnamed ditch thence to Lonewa Bayou thence to the Ouachita River
- F. Basin and segment - Ouachita River Basin, Segment 080101

Outfall 205

- A. Type of wastewater - the intermittent discharge of hydrostatic test wastewater from hydrostatic tests conducted on various pipes, tanks, vessels, and/or equipment
- B. Location - at the point of discharge from the pipe, tank, vessel, and/or equipment being tested prior to entering an unnamed ditch thence to Lonewa Bayou thence to the Ouachita River or directly to the Ouachita River (Latitude 32°42'08", Longitude 92°04'37")
- C. Treatment - none
- D. Flow - intermittent
- E. Receiving waters - through Outfall 005 thence to an unnamed ditch thence to Lonewa Bayou thence to the Ouachita River
- F. Basin and segment - Ouachita River Basin, Segment 080101

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 6

Outfall 006

- A. Type of wastewater - the intermittent discharge of stormwater runoff associated with industrial activity from an area located northeast of the generating station administration building including but not limited to the site switchyard
- B. Location - at the point of discharge from the drainage ditch at the northeastern fence line prior to entering an unnamed ditch thence to Lonewa Bayou thence to the Ouachita River
 (Latitude 32°42'08", Longitude 92°04'37")
- C. Treatment - none
- D. Flow - intermittent
- E. Receiving waters - unnamed ditch thence to Lonewa Bayou thence to the Ouachita River
- F. Basin and segment - Ouachita River Basin, Segment 080101

7. Previous Effluent Limitations

Outfall 001 - the intermittent discharge of cooling tower blowdown from Unit 7 including but not limited to discharges from a multi-cell force cooling tower which thermally conditions closed cooling water for equipment associated with Unit 7

Parameter	LPDES	
	Monthly Average	Daily Maximum
Flow - mgd	Report 1/day Est.	Report 1/day Est.
Temperature	Report 1/week Grab	Report 1/week Grab
Free Available Chlorine	0.2 mg/L 1/week Grab	0.5 mg/L 1/week Grab
Total Chromium	0.2 mg/L 1/year Grab	0.2 mg/L 1/year Grab

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 7

Total Copper	0.413 lbs/day 82 µg/L 1/week Grab	0.827 lbs/day 165 µg/L 1/week Grab
Total Mercury	0.00764 lbs/day 1.52 µg/L 1/week Grab	0.01528 lbs/day 3.05 µg/L 1/week Grab
Total Zinc	1.0 mg/L 1/week Grab	1.0 mg/L 1/week Grab
pH	6.0 - 9.0 s.u. 1/week Grab	

WHOLE EFFLUENT TOXICITY TESTING (ACUTE)	PERCENT %, UNLESS STATED		MONITORING REQUIREMENTS	
	MONTHLY AVERAGE MINIMUM	48-HOUR MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
NOEC, Pass/Fail [0/1], Lethality, Static Renewal, 48-Hour Acute, <i>Pimephales promelas</i>	Report	Report	1/quarter	24-hr. Composite
NOEC, Value [%], Lethality, Static Renewal, 48-Hour Acute, <i>Pimephales promelas</i>	Report	Report	1/quarter	24-hr. Composite
NOEC, Pass/Fail [0,1], Lethality, Static Renewal, 48-Hour Acute, <i>Daphnia pulex</i>	Report	Report	1/quarter	24-hr. Composite
NOEC, Value [%], Lethality, Static Renewal, 48-Hour Acute, <i>Daphnia pulex</i>	Report	Report	1/quarter	24-hr. Composite

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 8

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations (s):

Outfall 001; at the point of discharge from the cooling tower blowdown line prior to combining with the waters of the Ouachita River

Outfall 002 - the continuous discharge of once through non-contact cooling water from Unit 6

Parameter	LPDES	
	Monthly Average	Daily Maximum
Flow - mgd	Report Continuous Measurement	159 Continuous Measurement
Temperature	112° F Continuous Recorder	115° F Continuous Recorder
Total Residual Chlorine	---	22.1 lbs/day 0.2 mg/L 1/week Grab

WHOLE EFFLUENT TOXICITY TESTING (CHRONIC)	PERCENT %, UNLESS STATED		MONITORING REQUIREMENTS	
	MONTHLY AVERAGE MINIMUM	7-DAY MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
NOEC, Pass/Fail [0/1], Lethality, Static Renewal, 7-Day Chronic, <i>Pimephales promelas</i>	Report	Report	1/year	24-hr. Composite
NOEC, Value [%], Lethality, Static Renewal, 7-Day Chronic, <i>Pimephales promelas</i>	Report	Report	1/year	24-hr. Composite

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 9

NOEC, Value [%], Growth, Static Renewal, 7-Day Chronic, <i>Pimephales promelas</i>	Report	Report	1/year	24-hr. Composite
NOEC, Pass/Fail [0/1], Lethality, Static Renewal, 7-Day Chronic, <i>Ceriodaphnia dubia</i>	Report	Report	1/year	24-hr. Composite
NOEC, Value [%], Lethality, Static Renewal, 7-Hour Chronic, <i>Ceriodaphnia dubia</i>	Report	Report	1/year	24-hr. Composite
NOEC, Value [%], Reproduction, Static Renewal, 7-Day Chronic, <i>Ceriodaphnia dubia</i>	Report	Report	1/year	24-hr. Composite

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations (s):

Outfall 002, at the point of discharge from the turbine condenser cooling system prior to where the once through non-contact cooling water discharge enters into the Ouachita River

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 10

Outfall 003 - the intermittent discharge of stormwater runoff from a non-industrial area located south of the facility office and service building

Parameter	LPDES	
	Monthly Average	Daily Maximum
Flow - mgd	---	Report
		1/quarter Estimate
TOC	---	50 mg/L 1/quarter Grab
Oil and Grease	---	15 mg/L 1/quarter Grab
pH	6.0 - 9.0 s.u. 1/quarter Grab	

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations (s):

Outfall 003, at the point of discharge from the underground piping on the west side of the levee road, immediately south of the intake structure (Outfall 002) and prior to discharge to the Ouachita River

Outfall 004 - the intermittent discharge of stormwater runoff from a non-industrial area located north of the facility office and service building

Parameter	LPDES	
	Monthly Average	Daily Maximum
Flow - mgd	---	Report
		1/quarter Estimate
TOC	---	50 mg/L 1/quarter Grab

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 11

Oil and Grease	---	15 mg/L 1/quarter Grab
pH	6.0 - 9.0 s.u. 1/quarter Grab	

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations (s):

Outfall 004, at the point of discharge from the underground piping on the west side of the levee road, immediately north of the intake structure (Outfall 002) and prior to discharge to the Ouachita River

Outfall 005 - the intermittent discharge of low volume wastewaters and previously monitored effluent from Internal Outfall 105

Parameter	LPDES	
	Monthly Average	Daily Maximum
Flow - mgd	Report 1/day Estimate	Report 1/day Estimate
TSS	30 mg/L 1/week Grab	100 mg/L 1/week Grab
Oil and Grease	15 mg/L 1/week Grab	20 mg/L 1/week Grab
pH	6.0 - 9.0 s.u. 1/week Grab	

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations:

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 12

Outfall 005, at the point of discharge from the oil/water separator prior to combining with the waters in an unnamed ditch thence to Lonewa Bayou thence to the Ouachita River

Outfall 105 - the intermittent discharge of chemical metal cleaning wastewater

Parameter	LPDES	
	Monthly Average	Daily Maximum
Flow - mgd	Report 1/day Estimate	Report 1/day Estimate
Total Copper	1.0 mg/L 1/week Grab	1.0 mg/L 1/week Grab
Total Iron	1.0 mg/L 1/week Grab	1.0 mg/L 1/week Grab

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations (s):

Outfall 105, at the point of discharge from the mobile cleaning process unit(s) prior to combining with the waters of Final Outfall 005

Outfall 006 - the intermittent discharge of stormwater runoff from a non-industrial area from the north and northeast portion of the facility, primarily the 115KV and 500 KV switch yards

Parameter	LPDES	
	Monthly Average	Daily Maximum
Flow - mgd	---	Report 1/quarter Estimate
TOC	---	50 mg/L 1/quarter Grab

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 13

Oil and Grease	---	15 mg/L 1/quarter Grab
pH	6.0 - 9.0 s.u. 1/quarter Grab	

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations (s):

Outfall 006, at the point of discharge from a plant drainage ditch located 175 feet northeast of Outfall 005 and prior to combining with the waters in an unnamed ditch thence to Lonewa Bayou thence to the Ouachita River

8. Summary of Proposed Changes From the Current LPDES Permit:

- The outfall descriptions have been updated based on an email from Gus VonBodungen dated November 19, 2008.
- Outfall 001
 - (1) The mass limitations for Total Copper and Total Mercury have been eliminated.
 - (2) The Total Copper concentration limits have been recalculated based on new effluent data.
- Outfall 005
 - (1) The monitoring frequency is being reduced from 1/week to 2/month for TSS, oil & grease, and pH.
- Outfall 205 (hydrostatic test wastewater) has been added to the permit.
- 316(b) language has been added to Part II of the permit.
- Biomomintoring Changes
 - (1) Biomonitoring for Outfalls 001 and 002 were reported separately in the previous permit. For the draft permit, biomonitoring for Outfalls 001 and 002 will be combined and reported under TX1.

9. Proposed Permit Limits:

The specific effluent limitations and/or conditions will be found in the draft permit. Development and calculation of permit limits are detailed in the Permit Limit Rationale section below.

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 14

10. Permit Limit Rationale:

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under LAC 33:IX.2707/40 CFR Part 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at LAC 33:IX.2707.L.2.b, the draft permit limits are based on either technology-based effluent limits pursuant to LAC 33:IX.2707.A or on State water quality standards and requirements pursuant to LAC 33:IX.2707.D, whichever are more stringent.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Regulations promulgated at LAC 33:IX.2707.A require technology-based effluent limitations to be placed in LPDES permits based on effluent limitations guidelines where applicable, on BPJ (best professional judgment) in the absence of guidelines, or on a combination of the two. The following is a rationale for types of wastewaters. Entergy Louisiana, LLC, Sterlington Generating Plant is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) effluent limitation guidelines listed below:

<u>Manufacturing Operation</u>	<u>Guideline</u>
Steam Electric Power Generating Point Source Category	40 CFR 423

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity [LAC 33:IX.2715] and to assure compliance with permit limitations [LAC33:IX.2707.I]

C. WATER QUALITY-BASED EFFLUENT LIMITATIONS

Technology-based effluent limitations were screened against state water quality numerical standard based limitations by following guidance procedures established in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008. Calculations, results, and documentation are given in Appendix B.

The following pollutants received water quality based effluent limits:

Fact Sheet and Rationale for
Entergy Louisiana, LLC, Sterlington Generating Plant
LA0007579, AI No. 19483
Page 15

Total Copper

Minimum quantification levels (MQL's) for state water quality numerical standards-based effluent limitations are set at the values listed in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008. They are also listed in Part II of the permit.

~~Monitoring frequencies for water quality-based limited parameters are~~ established in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008.

D. MONITORING FREQUENCIES

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity (LAC33:IX.2715) and to assure compliance with permit limitations (LAC33:IX.2707.I). Specific monitoring frequencies per outfall are listed in Section E.

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 16

E. OUTFALL SPECIFIC RATIONALE

Outfall 001

1. General Comments

This outfall is the intermittent discharge of cooling tower blowdown from Unit 7.

2. Effluent Limitation, Monitoring Frequencies, and Sample Types

EFFLUENT CHARACTERISTIC	LIMITATION		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-mgd	Report	Report	1/day	Estimate
Temperature	Report	Report	1/week	Grab
Free Available Chlorine *	0.2 mg/L	0.5 mg/L	1/week	Grab
Total Chromium	0.2 mg/L	0.2 mg/L	1/year	Grab
Total Copper	247 µg/L	586.4 µg/L	1/week	Grab
Total Mercury	1.52 µg/L	3.05 µg/L	1/week	Grab
Total Zinc	1.0 mg/L	1.0 mg/L	1/week	Grab
pH	6.0 s.u.	9.0 s.u.	1/week	Grab

* Sample shall be representative of periods of chlorination.

Flow - The current LPDES permit established a reporting requirement for monthly average and daily maximum flow. These requirements are being retained with a daily monitoring frequency. These requirements are consistent with LAC33:IX.2707.I.1.b.

Temperature - The current LPDES permit established a reporting requirement for monthly average and daily maximum reporting of temperature in °F. These requirements are being retained with a monitoring frequency of once per week. Temperature is measured by grab sampling with analysis required immediately.

Free Available Chlorine - The current LPDES permit established a monthly average limitation of 0.2 mg/L and a daily maximum limitation of 0.5 mg/L in accordance with 40 CFR 423.13(d)(1), (2), and (g). These limitations are

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 17

being retained with the same monitoring frequency of once per week by grab sample during periods of chlorination.

Total Chromium - The current LPDES permit established a monthly average limitation of 0.2 mg/L and a daily maximum limitation of 0.2 mg/L in accordance with 40 CFR 423.13 (BAT)(d)(1) and (g). These limitations are being retained with the same monitoring frequency of once per year by grab sample.

Total Copper and Total Mercury - The current LPDES permit established mass limitations and water quality based concentration limitations for total copper and total mercury. The flow of this outfall is intermittent; therefore, this renewal draft permit proposes to remove mass limitations from the current LPDES permit based on LAC 33:IX.2709.F.1.c. A metals study, submitted October 2008, was performed to determine the reasonable potential for mercury and copper in the effluent for Outfall 001. The results of this study were used to determine whether the mercury or copper water quality based limits should be retained in the permit. Using the current implementation for calculating water quality limitations, Louisiana Department of Environmental Quality, Water Permits, Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, the following was determined: (1) Total Copper would require a monthly average limitation of 247 $\mu\text{g/L}$ and a daily maximum limitation of 586.4 $\mu\text{g/L}$. These limitations will have a monitoring frequency of once per week by grab sampling. The recalculated limit is less stringent than the prior copper limitation; however, as per LAC33:IX.2707.L.2.a.ii.(a), this is not considered antibacksliding. (2) A mercury limitation is not required in the permit as a result of the water quality limitations screen. However, the receiving stream is included in the TMDL's for Segments Listed for Mercury in Fish Tissue for the Quachita River Basin and Bayou Bartholomew. As per the TMDL, there is to be no change in the mercury limits for point sources with permit limits for mercury. Additionally, an Outfall 001 Metals Study was submitted October 2008 that showed several samples of mercury above the Louisiana Water Quality standard (0.012 $\mu\text{g/L}$); therefore, the mercury limitations (monthly average limitation of 1.52 $\mu\text{g/L}$ and a daily maximum limitation of 3.05 $\mu\text{g/L}$) are being retained with the same monitoring frequency of once per week by grab sample.

Total Zinc - The current LPDES permit established a monthly average limitation of 1.0 mg/L and a daily maximum limitation of 1.0 mg/L in accordance with 40 CFR 423.13(d)(1) and (g). These limitations are being retained with the same monitoring frequency of once per week by grab sample.

pH - The current LPDES permit established a minimum discharge limit of 6.0 standard units and maximum discharge limit of 9.0 standard units for pH. These limitations, based on 40 CFR 423.12.(b)(1), are being retained with a monitoring frequency of once per week by grab sample.

Fact Sheet and Rationale for
Entergy Louisiana, LLC, Sterlington Generating Plant
LA0007579, AI No. 19483
Page 18

TOXICITY TESTS

Chronic static renewal 7-day
definitive toxicity test using
fathead minnow (*Pimephales promelas*)

FREQUENCY

once per quarter

Chronic static renewal 7-day
definitive toxicity test using
water flea (*Ceriodaphnia dubia*)

once per quarter

Toxicity tests shall be performed in accordance with protocols described in the latest revision of the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms." The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge in accordance with regulations promulgated at LAC 33:IX.2715.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and salinity shall be documented in a full report according to the test method publication mentioned in the previous paragraph. The permittee shall submit a copy of the first full report to the Office of Environmental Compliance. However, the full report and subsequent reports are to be retained for three (3) years following the provisions of Part III.C.3 of this permit. The permit requires the submission of certain toxicity testing information as an attachment to the Discharge Monitoring Report.

This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data shows actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.3105. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

Dilution Series - The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 20%, 27%, 36%, 48%, and 65%. The biomonitoring critical dilution is defined as 48% effluent. Outfalls 001 and 002 are reported under one outfall (TX1).

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 19

Outfall 002

1. General Comments

This outfall is the continuous discharge of once-through non-contact cooling water from Unit 6.

2. Effluent Limitation, Monitoring Frequencies, and Sample Types

EFFLUENT CHARACTERISTIC	LIMITATION		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-mgd	Report	159	Continuous	Measurement
Temperature	112°F	115°F	Continuous	Record
Total Residual Chlorine *	---	0.2 mg/L 22.1 lbs/day	1/week	Grab

*Sample shall be representative of any periodic episodes of chlorination, biocide usage, or other potentially toxic substance.

Flow - The current LPDES permit established a reporting requirement for monthly average and daily maximum flow limitation. These requirements are being retained with a continuous monitoring frequency. These requirements are consistent with LAC33:IX.2707.I.1.b. Flow is measured by utilizing pump calculations.

Temperature - The current LPDES permit established a temperature limitation of 112°F for monthly average and 115°F for daily maximum. These limitations are being retained with a continuous monitoring frequency by a recorder.

Total Residual Chlorine - The current LPDES permit established a daily maximum limitation of 0.2 mg/L and 22.1 lbs/day in accordance with 40 CFR 423.13(b) (1) and (2). These limitations are being retained with the same monitoring frequency of once per week by grab sample during periodic episodes of chlorination, biocide usage, or other potentially toxic substance.

TOXICITY TESTS

Chronic static renewal 7-day
 definitive toxicity test using
 fathead minnow (*Pimephales promelas*)

FREQUENCY

once per quarter

Chronic static renewal 7-day
definitive toxicity test using
water flew (*Ceriodaphnia dubia*)

Toxicity tests shall be performed in accordance with protocols described in the latest revision of the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms." The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge in accordance with regulations promulgated at LAC 33:IX.2715.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and salinity shall be documented in a full report according to the test method publication mentioned in the previous paragraph. The permittee shall submit a copy of the first full report to the Office of Environmental Compliance. However, the full report and subsequent reports are to be retained for three (3) years following the provisions of Part III.C.3 of this permit. The permit requires the submission of certain toxicity testing information as an attachment to the Discharge Monitoring Report.

This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data shows actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.3105. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

Dilution Series - The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 20%, 27%, 36%, 48%, and 65%. The biomonitoring critical dilution is defined as 48% effluent. Outfalls 001 and 002 are reported under one outfall (TX1).

1. General Comments

This outfall is the intermittent/emergency discharge of low contamination potential stormwater runoff from an area located southwest of the generating station administration building.

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 21

2. Effluent Limitation, Monitoring Frequencies, and Sample Types

EFFLUENT CHARACTERISTIC	LIMITATION*		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-mgd	---	Report	1/quarter	Estimate
TOC	---	50 mg/L	1/quarter	Grab
Oil and Grease	---	15 mg/L	1/quarter	Grab
pH	6.0 s.u.	9.0 s.u.	1/quarter	Grab

*Testing of these are required upon exceedance of benchmark concentrations listed in the permit (Part II, T.6)

Flow - The current LPDES permit established a reporting requirement for daily maximum flow. This requirement is being retained with a monitoring frequency of once per quarter when discharging. This requirement is consistent with LAC33:IX.2707.1.I.1.b.

Total Organic Carbon (TOC) - The current LPDES permit established a daily maximum limitation of 50 mg/L. The limitation is based on BPJ in accordance with this Office's guidance on stormwater, letter dated 6/17/87 from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6). This requirement is being retained with a monitoring frequency of once per quarter by grab sample.

Oil and Grease - The current LPDES permit established a daily maximum limitation of 15 mg/L. This limitation is based on BPJ in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6). This requirement is being retained with a monitoring frequency of once per quarter by grab sample.

pH - The current LPDES permit established a minimum discharge limitation of 6.0 standard units and a maximum discharge limitation of 9.0 standard units for pH. These limitations are based on BPJ in accordance with this Office's guidance on stormwater letter, dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6). These requirements are being retained with a monitoring frequency of once per quarter by grab sample.

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 22

Outfall 004

1. General Comments

This outfall is the intermittent/emergency discharge of low contamination potential stormwater runoff from an area located west northwest of the generating station administration building.

2. Effluent Limitation, Monitoring Frequencies, and Sample Types

EFFLUENT CHARACTERISTIC	LIMITATION*		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-mgd	---	Report	1/quarter	Estimate
TOC	---	50 mg/L	1/quarter	Grab
Oil and Grease	---	15 mg/L	1/quarter	Grab
pH	6.0 s.u.	9.0 s.u.	1/quarter	Grab

*Testing of these are required upon exceedance of benchmark concentrations listed in the permit (Part II, T.6)

Flow - The current LPDES permit established a reporting requirement for daily maximum flow. This requirement is being retained with a monitoring frequency of once per quarter when discharging. This requirement is consistent with LAC33:IX.2707.1.I.1.b.

Total Organic Carbon (TOC) - The current LPDES permit established a daily maximum limitation of 50 mg/L. The limitation is based on BPJ in accordance with this Office's guidance on stormwater, letter dated 6/17/87 from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6). This requirement is being retained with a monitoring frequency of once per quarter by grab sample.

Oil and Grease - The current LPDES permit established a daily maximum limitation of 15 mg/L. This limitation is based on BPJ in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6). This requirement is being retained with a monitoring frequency of once per quarter when discharging by grab sample.

pH - The current LPDES permit established a minimum discharge limitation of 6.0 standard units and a maximum discharge limitation of 9.0 standard units for pH. These limitations are based on BPJ in accordance with this Office's guidance on stormwater letter, dated 6/17/87, from J. Dale Givens (LDEQ) to

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 23

Myron Knudson (EPA Region 6). These requirements are being retained with a monitoring frequency of once per quarter by grab sample.

Outfall 005

1. General Comments**

This outfall is the intermittent discharge of low volume wastewaters, intermittent stormwater drainage, miscellaneous maintenance wastewaters including but not limited to fire system water, water from pressure washing floors, clarifier underflow, purged groundwater, lab drain water, and cooling tower drift leakage, previously monitored chemical metal and metal cleaning wastewater from Outfall 105, hydrostatic test wastewater from Outfall 205, and intermittent stormwater from the plant site including areas common with emergency Outfalls 003 and 004.

2. Effluent Limitation, Monitoring Frequencies, and Sample Types

EFFLUENT CHARACTERISTIC	LIMITATION		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-mgd	Report	Report	1/day	Estimate
TSS	30 mg/L	100 mg/L	2/month	Grab
Oil and Grease	15 mg/L	20 mg/L	2/month	Grab
pH	6.0 s.u.	9.0 s.u.	2/month	Grab

**Coagulants: The quantity and types of all coagulants (clarifying agents) used in the intake raw river water treatment clarification system during the sampling month shall be recorded. Records of the quantity and type of coagulants used shall be retained for three (3) years following Part III.C.3. of the permit. No DMR reporting shall be required.

Flow - The current LPDES permit established a reporting requirement for monthly average flow and daily maximum flow. These requirements are being retained with a monitoring frequency of once per day. These requirements are consistent with LAC 33:IX.2707.I.1.b.

Total Suspended Solids (TSS)- The current LPDES permit established a monthly average limitation of 30 mg/L and a daily maximum discharge limitation of 100 mg/L in accordance with 40 CFR 423.12(b)(3). These limitations are being retained with a reduction in the monitoring frequency to twice per month by grab sample. This reduction is based on historical monitoring for TSS showing the discharge ratio of long term average to monthly average is 37.3 and the

Fact Sheet and Rationale for
Entergy Louisiana, LLC, Sterlington Generating Plant
LA0007579, AI No. 19483
Page 24

fact that there have been no permit limitation exceedances for this parameter in the last permit cycle.

Oil and Grease - The current LPDES permit establishes a monthly average limitation for oil and grease at 15 mg/L and a daily maximum limitation at 20 mg/L in accordance with 40 CFR 423.12(b)(3). These limitations are being retained with a reduction in monitoring frequency to twice per month by grab sample. This reduction is based on historical monitoring for oil and grease showing the discharge ratio of long term average to monthly average is 4.1 and ~~the fact that there have been no permit limitation exceedances for this~~ parameter in the last permit cycle.

pH - The current LPDES permit established a minimum discharge limit of 6.0 standard units and a maximum discharge limit of 9.0 standard units for pH. These limitations, based on 40 CFR 423.12(b)(1), are being retained. Because there have been no permit limitation exceedances for this parameter in the last permit cycle, the monitoring frequency is being reduced from once per week to twice per month by grab sample to be consistent with other outfall monitoring.

Coagulants - The recording of coagulants have been included based on BPJ and similar discharges.

Internal Outfalls

In accordance with LAC33:IX.3305, the following is an explanation for the establishment of Internal Outfalls 105 and 205. Certain permit effluent limitations at the point of discharge are impractical because at the final discharge point, the wastewater is diluted as to make monitoring impracticable. Therefore, in accordance with LAC33:IX.2709, the internal outfalls described below will remain in the permit.

Internal Outfall 105

1. General Comments

This mobile outfall is the intermittent internal discharge of chemical metal and metal cleaning wastewaters from internal components of plant equipment to Final Outfall 005.

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 25

2. Effluent Limitation, Monitoring Frequencies, and Sample Types

EFFLUENT CHARACTERISTIC	LIMITATION		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-mgd	Report	Report	1/day	Estimate
Total Copper	1.0 mg/L	1.0 mg/L	1/week	Grab
Total Iron	1.0 mg/L	1.0 mg/L	1/week	Grab

Flow - The current LPDES permit established a reporting requirement for monthly average flow and daily maximum flow. These requirements are being retained with a monitoring frequency of once per day. These requirements are consistent with LAC 33:IX.2707.I.1.b.

Total Copper and Total Iron - The current LPDES permit established a monthly average discharge limitation at 1.0 mg/L and a daily maximum discharge limitation at 1.0 mg/L for both total copper and total iron in accordance with 40 CFR 423.13(e) and (g). These limitations are being retained with the same monitoring frequency of once per week by grab sample.

Outfall 205

1. General Comments

The intermittent discharge of hydrostatic test wastewater from hydrostatic tests conducted on various pipes, tanks, vessels, and/or equipment.

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 26

EFFLUENT CHARACTERISTIC	LIMITATION		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-mgd	Report	Report	1/event	Estimate
TSS	---	90 mg/L	1/event	Grab
Oil & Grease	---	15 mg/L	1/event	Grab
TOC	---	50 mg/L	1/event	Grab
Benzene**	---	50 µg/L	1/event	Grab
Total BTEX**	---	250 µg/L	1/event	Grab
Lead**	---	50 µg/L	1/event	Grab

**Sampling for Benzene, Total BTEX, and Total Lead shall be measured on discharges from existing pipelines, flowlines, vessels, or tanks which have been used for the storage or transportation of liquid or gaseous petroleum hydrocarbons.

Flow - This LPDES permit establishes a reporting requirement for monthly average flow and daily maximum flow once per event. These requirements are consistent with LAC 33:IX.2707.I.1.b and the LPDES General Permit for Hydrostatic Test Wastewater, LAG670000.

TSS - This LPDES permit establishes a daily maximum limitation of 90 mg/L in accordance with LPDES General Permit for Hydrostatic Test Wastewater, LAG670000. The monitoring frequency is set at once per event by grab sample.

Oil & Grease - This LPDES permit establishes a daily maximum limitation of 15 mg/L in accordance with LPDES General Permit for Hydrostatic Test Wastewater, LAG670000. The monitoring frequency is set at once per event by grab sample.

Total Organic Carbon (TOC) - This LPDES permit establishes a daily maximum limitation of 50 mg/L in accordance with LPDES General Permit for Hydrostatic Test Wastewater, LAG670000. The monitoring frequency is set at once per event by grab sample.

Benzene, Total BTEX, and Lead - This LPDES permit establishes a daily maximum limitation of 50 µg/L for Benzene, 250 µg/L for Total BTEX, and 50 µg/L for Lead in accordance with LPDES General Permit for Hydrostatic Test Wastewater, LAG670000. The monitoring frequencies are set at once per event by grab sample.

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 27

Outfall 006

1. General Comments

This outfall is the intermittent discharge of stormwater runoff associated with industrial activity from an area located northeast of the generating station administration building including but not limited to the site switchyard.

2. Effluent Limitation, Monitoring Frequencies, and Sample Types

EFFLUENT CHARACTERISTIC	LIMITATION		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-mgd	---	Report	1/quarter	Estimate
TOC	---	50 mg/L	1/quarter	Grab
Oil and Grease	---	15 mg/L	1/quarter	Grab
pH	6.0 s.u.	9.0 s.u.	1/quarter	Grab

Flow - The current LPDES permit established a reporting requirement for daily maximum flow. This requirement is being retained with the same monitoring frequency of once per quarter. This requirement is consistent with LAC 33:IX.2707.I.1.b.

Total Organic Carbon (TOC) - The current LPDES permit established a daily maximum discharge limit of 50 mg/L. This limitation based on BPJ is in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6): The limitation is being retained with a monitoring frequency of once per quarter by grab sample.

Oil and Grease - The current LPDES permit established a daily maximum discharge limitation of 15 mg/L. This limitation based on BPJ is in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6). This limitation is being retained with the same monitoring frequency of once per quarter by grab sample.

pH - The current LPDES permit established a minimum limit of 6.0 standard units and a maximum limit of 9.0 standard units for pH. These limitations based on BPJ are in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region

Fact Sheet and Rationale for
Entergy Louisiana, LLC, Sterlington Generating Plant
LA0007579, AI No. 19483
Page 28

6). These limitations are being retained with a monitoring frequency of once per quarter by grab sample.

Part II Specific Conditions

PROHIBITION OF PCB DISCHARGES

As commanded by 40 CFR 423.12(b)(2), a Part II condition is retained in this draft permit prohibiting the discharge of polychlorinated biphenyl compounds.

"There shall be no discharge of polychlorinated biphenyls (PCB's). The minimum quantification level for PCB's is 1.0 $\mu\text{g/l}$. If any individual analytical test result for PCB's is less than the minimum quantification level, then a value of zero (0) shall be used for the Discharge Monitoring Report (DMR) calculations and reporting requirements."

PROHIBITION OF 126 PRIORITY POLLUTANTS

There shall be no discharge of any 126 priority pollutants (40 CFR 423 Appendix A) associated with the chemicals added for cooling tower maintenance, except total chromium and total zinc. The minimum quantification levels for the 126 priority pollutants are found in Part II, Paragraph I.

CHEMICAL METAL CLEANING WASTE

The term *chemical metal cleaning waste* means any wastewater resulting from cleaning of any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning.

METAL CLEANING WASTE

The term *metal cleaning waste* means any wastewater resulting from cleaning (with or without chemical cleaning compounds) any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning.

LOW VOLUME WASTE SOURCES

The term "low volume waste sources" means, taken collectively as if from one source, wastewater from all sources except those for which specific limitations are otherwise established. Low volume waste sources include, but are not limited to: wastewaters from wet scrubber air pollution control systems, ion exchange water treatment systems, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, and recirculating house service water systems. Sanitary and air conditioning wastewaters are not included.

Fact Sheet and Rationale for
Entergy Louisiana, LLC, Sterlington Generating Plant
LA0007579, AI No. 19483
Page 29

FREE AVAILABLE CHLORINE

The term "free available chlorine" shall mean the value obtained using the amperometric titration method for free available chlorine described in the latest edition of Standard Methods for the Examination of Water and Wastewater.

Free available chlorine may not be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available chlorine at any one time.

TOTAL RESIDUAL CHLORINE

The term "total residual chlorine" (or total residual oxidants for intake water with bromides) means the value obtained using the amperometric method for total residual chlorine described in 40 CFR Part 136.

TEMPERATURE

Daily temperature discharge is defined as the flow-weighted average (FWAT) and, on a daily basis, shall be monitored and recorded in accordance with Part I of this permit. FWAT shall be calculated at equal time intervals not greater than two hours. The method of calculating FWAT is as follows:

$$\text{FWAT} = \frac{\text{SUMMATION (INSTANTANEOUS FLOW X INSTANTANEOUS TEMPERATURE)}}{\text{SUMMATION (INSTANTANEOUS FLOW)}}$$

"Daily average temperature" (also known as average monthly or maximum 30 day value) shall be the arithmetic average of all FWATs calculated during the calendar month.

"Daily maximum temperature" (also known as the maximum daily value) shall be the highest FWAT calculated during the calendar month.

PERMIT REOPENER CLAUSE

This permit may be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitations issued or approved under sections 301(b)(2)(C) and (D); 304(b)(2); and 307(a)(2) of the Clean Water Act, or more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon additional water quality studies and/or TMDL's, if the effluent standard, limitations, water quality studies or TMDL's so issued or approved:

1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

Fact Sheet and Rationale for
 Entergy Louisiana, LLC, Sterlington Generating Plant
 LA0007579, AI No. 19483
 Page 30

2. Controls any pollutant not limited in the permit; or
3. Requires reassessment due to change in 303(d) status of waterbody;
or
4. Incorporates the results of any total maximum daily load
allocation, which may be approved for the receiving water body.

The Louisiana Department of Environmental Quality (LDEQ) reserves the right to modify or revoke and reissue this permit based upon any changes to established TMDL's for this discharge, or to accommodate for pollutant trading provisions in approved TMDL watersheds as necessary to achieve compliance with water quality standards. Therefore, prior to upgrading or expanding this facility, the permittee should contact the Department to determine the status of the work being done to establish future effluent limitations and additional permit conditions.

316(b) PHASE II RULE REQUIREMENTS

- July 6, 2004, EPA promulgated 'Phase II' regulations in accordance with section 316(b) of the Clean Water Act (CWA).
- January 25, 2007, the Second U.S. Circuit Court of Appeals remanded several provisions of the Phase II rule.
- March 20, 2007, EPA issued a memo saying, "the rule should be considered suspended".
- July 9, 2007, Federal Register notice suspending all parts of the Phase II regulations except 40 CFR 125.90(b) [LAC 33:IX.4731.B]

LAC 33:IX.4731.B provides for regulating the cooling water intake structure (CWIS) for existing facilities on a case-by-case basis using best professional judgment.

This facility was issued a number of previous NPDES and/or LPDES permits and has been withdrawing once-through, non-contact cooling water without any identified problems since 1925. LDEQ has no information which either identifies or verifies any past or current adverse environmental impacts associated with the withdrawal of the applicable cooling water. The facility currently has 2 structures located 45 feet from the east bank of the Ouachita River and are equipped with traveling screens at each intake. LDEQ has made the determination that this CWIS represents the best technology available. This determination is based on current information available and will be re-evaluated either upon promulgation of revised 316(b) Phase II regulations or upon evaluation of the environmental impacts of their CWIS as described below, whichever becomes available first. The revised 316(b) Phase II regulation will supersede any requirements contained in the applicable permit. In addition LDEQ will require an evaluation of the environmental impacts of applicable CWIS as stated in the individual permits and as described in the following paragraphs:

Fact Sheet and Rationale for
Entergy Louisiana, LLC, Sterlington Generating Plant
LA0007579, AI No. 19483
Page 31

The permittee shall comply with effective regulations promulgated in accordance with section 316(b) of the CWA for cooling water intake structures. The permittee also must evaluate the environmental impacts of their CWIS by characterizing the fish/shellfish in the vicinity of the CWIS and assessing impingement mortality and entrainment and shall submit the assessment results to LDEQ no later than four (4) years from the effective date of this permit. Based on the information submitted to LDEQ, the permit may be reopened to incorporate limitations and/or requirements for the CWIS.

Within one year of the effective date of this permit, the permittee must submit a plan to develop the information in Part II, Paragraph S of the permit. The plan must be submitted to DEQ for review and approval and must include an evaluation of existing data and/or collection of additional data to support the determination of 'baseline conditions' and current operational conditions.

The fish/shellfish impingement mortality and entrainment assessment must include the following:

1. Source water physical data including a narrative description, scaled drawings, identification and characterization of the source waterbody's hydrological and geomorphological features, methods used to conduct any physical studies to determine your intake's area of influence within the waterbody and the results of such studies, location maps showing the physical configuration of the source water body, and other documentation which supports your assessment of the water body;
2. Cooling water intake structure data including a narrative description of the configuration, location, engineering drawings, and operation of your CWIS, including design intake flow velocity; flow distribution, and water balance diagram that includes all sources of water to the facility, recirculating flows, and discharges;
3. Cooling water system data including a narrative description of the operation of your cooling water system, its relationship to the CWIS, the proportion of the design intake flow that is used in the system, the number of days of the year the cooling water system is in operation and seasonal changes in the operation of the system, if applicable;
4. Source water biological evaluation which includes the fish/shellfish assessment and the impingement mortality/entrainment assessment; and
5. An assessment of the cooling water system which includes a discussion or description of how structural or operational actions currently in place reduce adverse environmental impacts caused by your CWIS, and a discussion of additional structural or operational actions, if any, that have been reviewed or evaluated as possible measures to further reduce environmental impacts caused by your CWIS.

Fact Sheet and Rationale for
Entergy Louisiana, LLC, Sterlington Generating Plant
LA0007579, AI No. 19483
Page 32

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENT

In accordance with LAC 33:IX.2707.I.3 and 4, a Part II condition is proposed for applicability to all stormwater discharges from the facility, either through permitted outfalls or through outfalls which are not listed in the permit or as sheetflow. For first time permit issuance, the Part II condition requires a Storm Water Pollution Prevention Plan (SWP3) within six (6) months of the effective date of the final permit. For renewal permit issuance, the Part II condition requires that the Storm Water Pollution Prevention Plan (SWP3) be reviewed and updated, if necessary, within six (6) months of the effective date of the final permit. If the permittee maintains other plans that contain duplicative information, those plans could be incorporated by reference to the SWP3. Examples of these type plans include, but are not limited to: Spill Prevention Control and Countermeasures Plan (SPCC), Best Management Plan (BMP), Response Plans, etc. The conditions will be found in the draft permit. Including Best Management Practice (BMP) controls in the form of a SWP3 is consistent with other LPDES and EPA permits regulating similar discharges of stormwater associated with industrial activity, as defined in LAC 33:IX.2522.B.14 [40 CFR 122.26(b)(14)].

12. Compliance History/DMR Review:

A DMR review was completed for the last three years (December 2008 - December 2005). No excursions were found and all DMR's were submitted in accordance with the existing permit.

13. WATER QUALITY CONSIDERATIONS

Subsegment 080101 is listed on LDEQ's Final 2006 303(d) list as impaired for color. A Water Quality Uses Attainability Analysis is needed for this waterbody. A reopener clause will be established in the permit to allow for the requirement of more stringent effluent limitations and requirements as imposed by a future TMDL.

Subsegment 080101 was previously listed as impaired for mercury, organic enrichment/low DO, nutrients, and phosphorus for which the below TMDL's have been developed. The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving waterbodies based on additional TMDL's and/or water quality studies. The DEQ also reserves the right to modify or revoke and reissue this permit based on any changes to established TMDL's for this discharge or to accommodate for pollutant trading provisions in approved TMDL watersheds as necessary to achieve compliance with water quality standards.

The following TMDL's have been established for Subsegment 080101.

Fact Sheet and Rationale for
Entergy Louisiana, LLC, Sterlington Generating Plant
LA0007579, AI No. 19483
Page 33

Ouachita River Mercury

The Sterlington Generating Plant was identified in Appendix A of the TMDL as one of the permitted facilities in this watershed. The TMDL states that an analysis of point sources in the watershed indicates that the cumulative loading of mercury from the facilities (in Appendix A) is less than 1% of the total estimated current loading. It further states that even if the TMDL were to give a wasteload allocation of zero, the water quality standards for mercury would not be attained in the waterbody because of very high mercury loadings from nonpoint and background sources. This facility has the potential to discharge mercury; therefore, based on the TMDL rationale and to be consistent with LDEQ's policy on mercury limits, limitations for mercury will remain in the permit.

Ouachita River Oxygen Demand

The TMDL for organic enrichment/low DO, nutrients, and phosphorus was completed July 31, 2002. The Sterlington Generating Plant was identified in Table 6 of the TMDL as a point source discharge. The facility's temperature limit was considered in the TMDL, but the facility was not given an allocation for oxygen demanding pollutants. A revised update to this TMDL was completed on March 2, 2007. This update was done for the West Monroe Paper Mill and did not affect other facilities listed in the initial TMDL. Therefore, because there was no allocation given in the initial TMDL, BPJ based limits for TOC have been maintained from the previous permit and will provide control of oxygen demand from this facility.

14. Endangered Species:

The receiving waterbody, Subsegment 080101 of the Ouachita Basin is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated November 17, 2008 from Rieck (FWS) to Nolan (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

15. Historic Sites:

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on

Fact Sheet and Rationale for
Entergy Louisiana, LLC, Sterlington Generating Plant
LA0007579, AI No. 19483
Page 34

the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

16. Tentative Determination:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to reissue a permit for the discharge described in the application.

17. Public Notices:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the fact sheet. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List